Wasted food workshop
Feed people, not landfills

January 2017, K-State Pollution Prevention Institute

K-STATE POLLUTION PREVENTION INSTITUTE (PPI)

Mission: promote sustainability through environmental education and services to industry, institutions and communities. These services include environmental compliance and pollution prevention technical assistance.

Pollution Prevention Institute

PPI is 100% grant supported

Measuring Success in Kansas: reducing waste at the source

IMPACTS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Water (million gallons)	N/A	25.4	187.1	9.9	22.2	6.0	11.8	7.8	N/A	10.2	280
Waste (tons)	1,025	5,506	1,707	6,720	585	318	126	519	N/A	N/A	16,500
Energy (MWh)	1,533	7,066	26,019	8,705	6,158	5,723	6,548	4,322	487	2,859	69,422
Operating/ disposal $ (million $)	$0.4	$1.5	$3.5	$0.9	$1.2	$0.6	$0.7	$1.8	$0.05	$0.4	$11.0
Greenhouse Gases ($MTCO_2e$)	1,089	5,079	18,921	6,207	7,080	3,996	2,608	4,260	346	2,843	52,400

Love Letter to Food

Overview

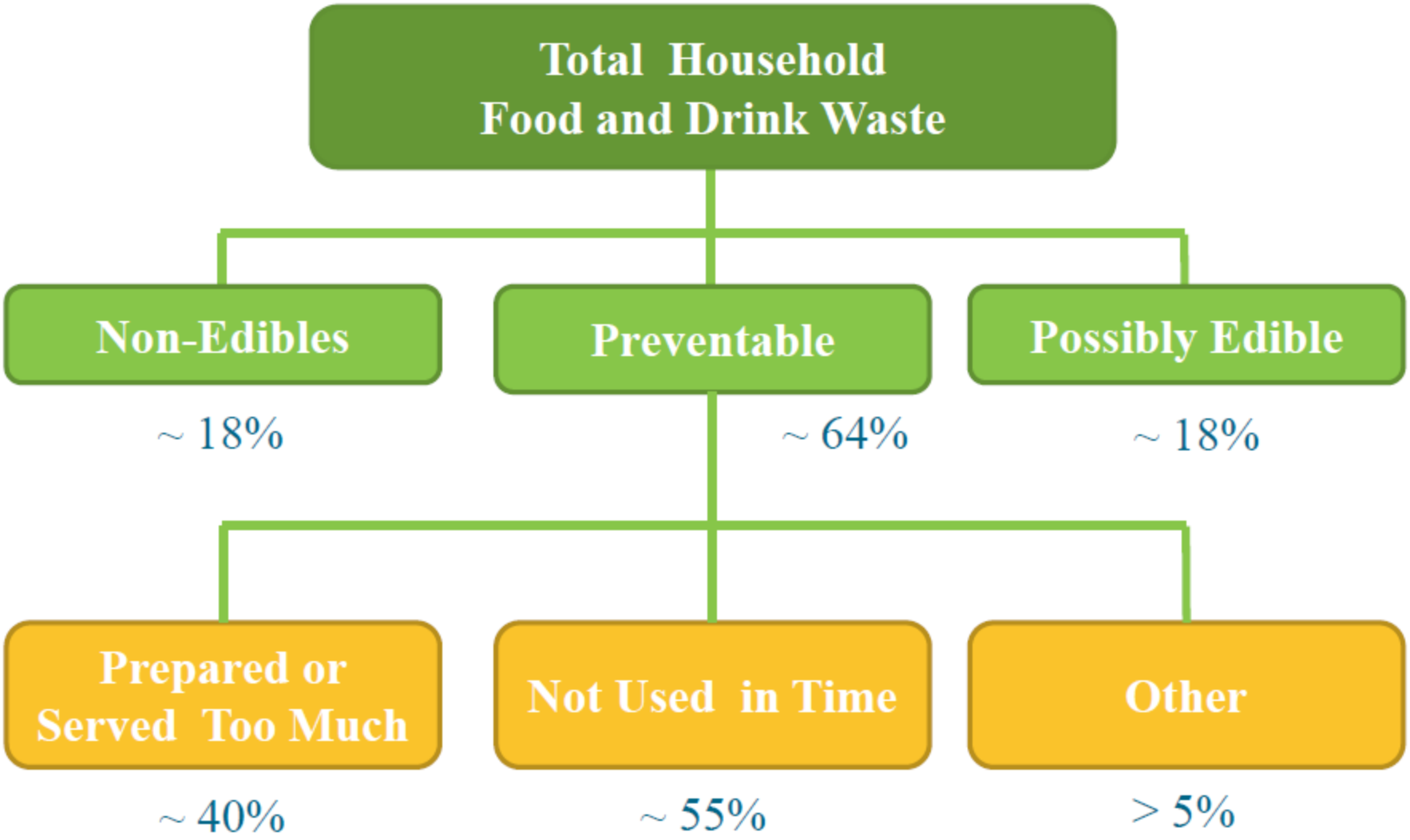
- Food waste and hunger problems
- K-State PPI - four different projects (USDA/KHF)
  - Rural community food recovery and assessment project
  - Food recovery challenge feeds Sedgwick County hungry
    - Two-year intern project
  - Salina food system assessment
  - Feed people not landfills (planned for 2017)
- New tool "Food too good to waste"
- Call to action

Food production and resource use

- Getting food from the farm to your plate uses 10 percent of U.S. energy, 50 percent of U.S. land, and 80 percent of all freshwater consumed in the U.S.
- 40 percent of food in the U.S. goes uneaten ($165 billion/year).
- One in six Americans doesn't have access to enough food.

Sources: National Resources Defense Council August 2012 issue paper (12-06-B)
www.feedingamerica.org/hunger-in-america/

Research shows that...



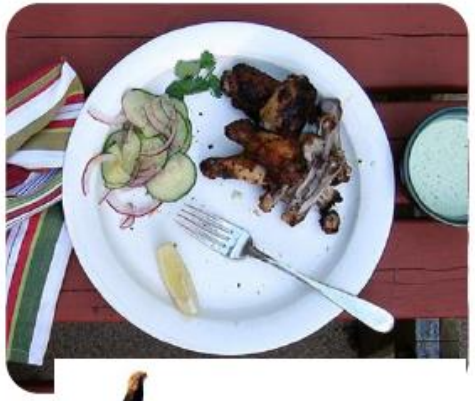
- Quested and Johnson, 2009

In one month, a family of 4 wastes ...

Bill Marsh and Kari Haskell/The New York Times; Photograph by Tony Cenicola/The New York Times

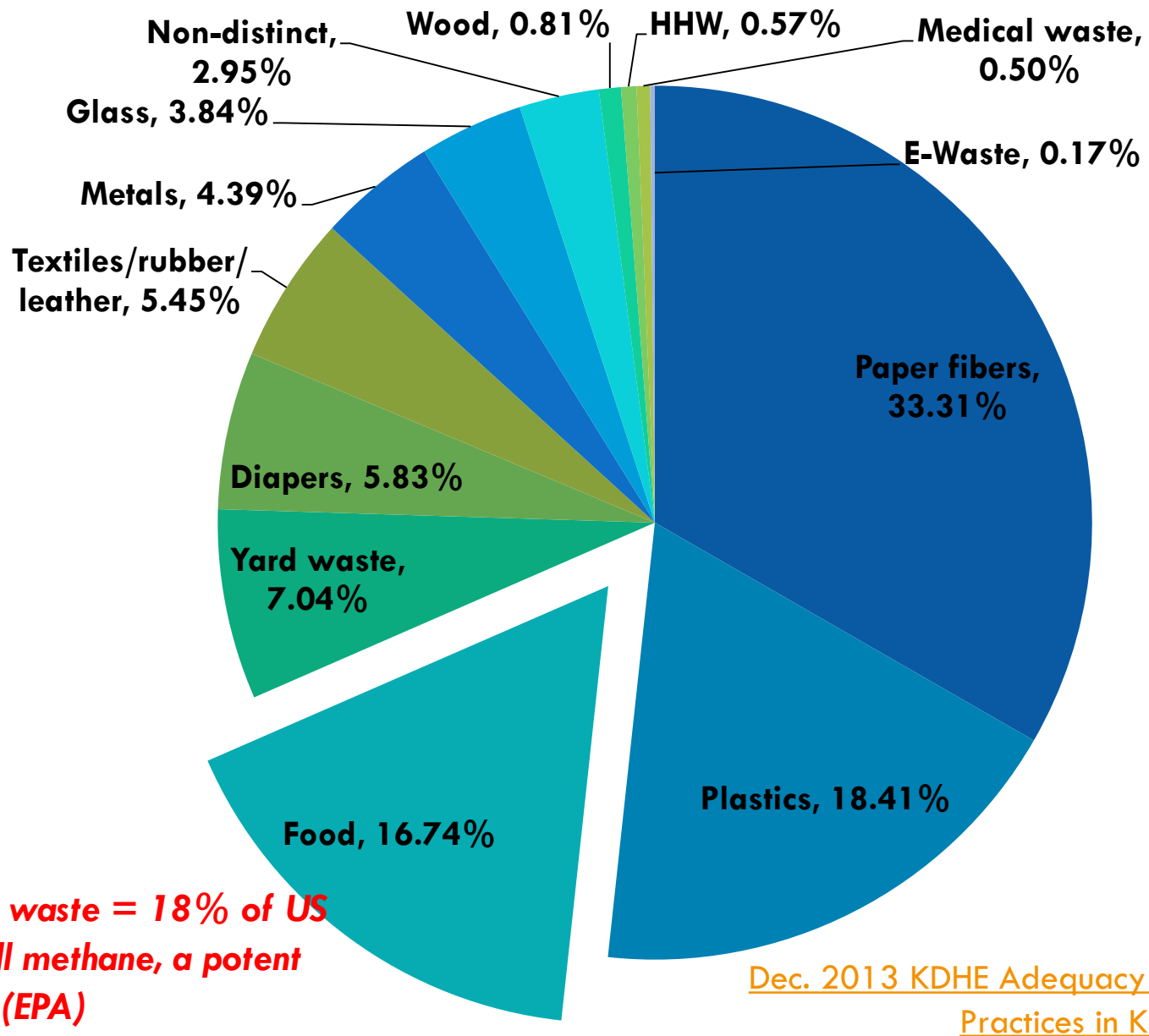
ReFED Report estimates 43% of all the food wasted in the US comes from households

Why do we waste food?



WASHINGTON COUNTY
OREGON
Solid Waste & Recycling Program

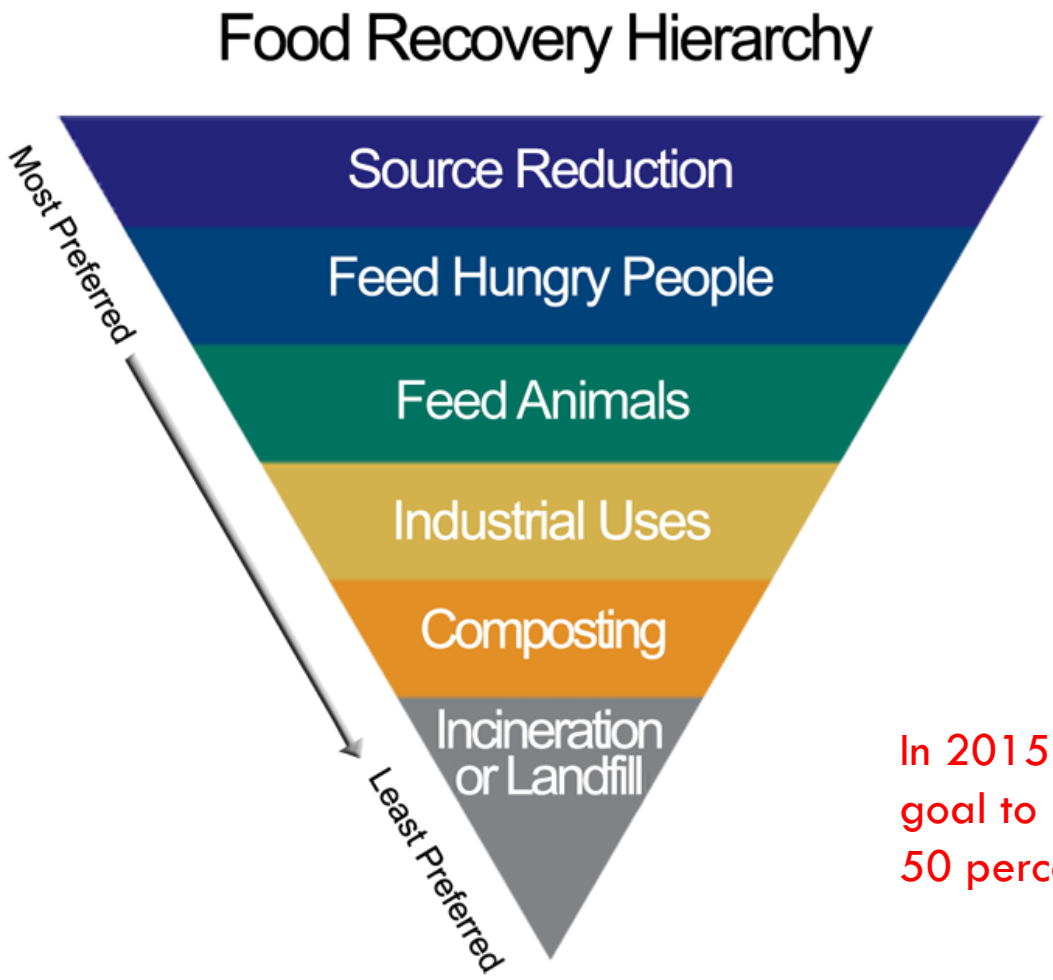
2012 MSW composition in Kansas



Food waste = 18% of US landfill methane, a potent GHG (EPA)

Dec. 2013 KDHE Adequacy of Waste Reduction Practices in Kansas

Food reduction opportunities



In 2015 – USDA and EPA joint goal to reduce food waste by 50 percent by 2030

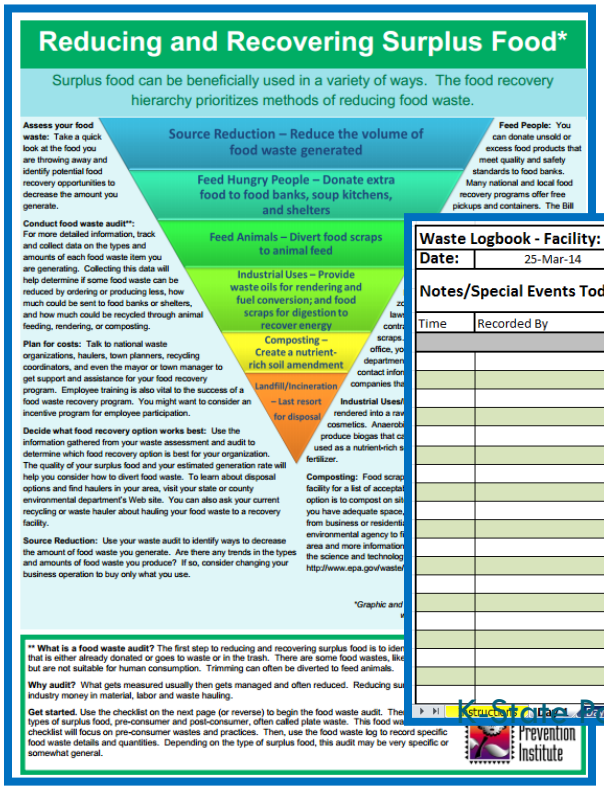
Two food recovery projects

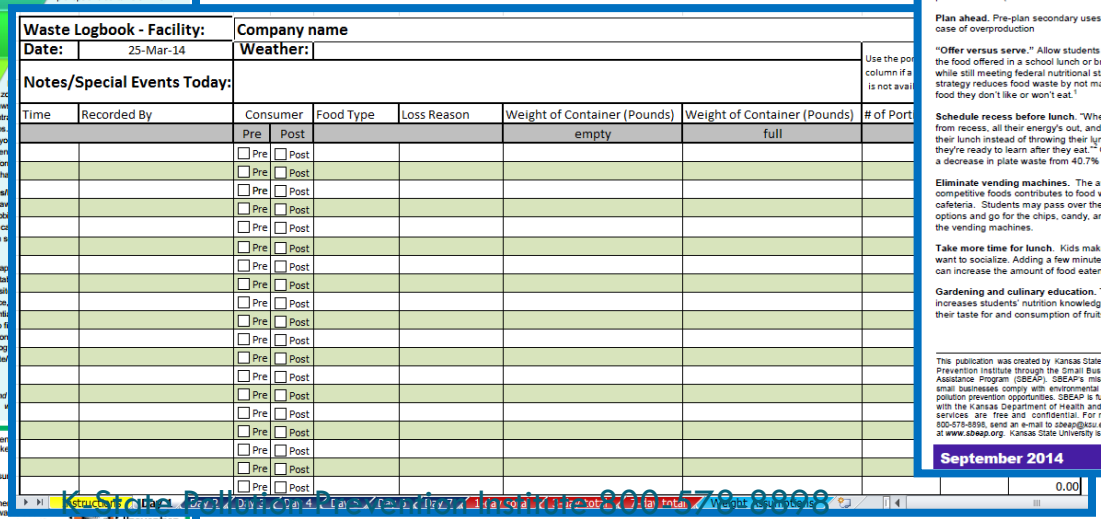
- Food Recovery Challenge meets Rural Kansas
  - One-year project funded through USDA grant

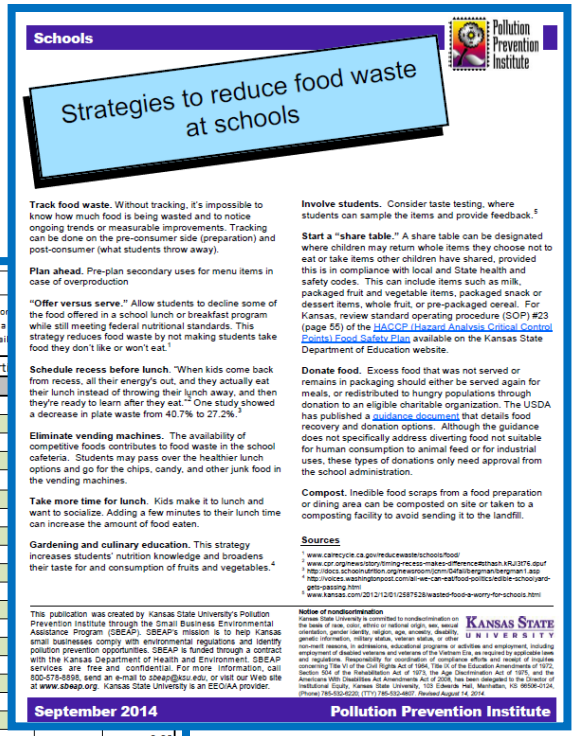
- Food Recovery Challenge (FRC) feeds Sedgwick County Hungry
  - Two-year project funded through Kansas Health Foundation

USDA project (2013)

- Worked with nine schools, institutions, and businesses
- Focus area was SE Kansas (worked w/ several throughout state)
- Developed resources to assist in food waste-reduction efforts







K-State Pollution Prevention Institute 800-578-8888

www.sbeap.org/services-programs/food-recovery

Kansas Health Foundation project

Title: FRC feeds Sedgwick County Hungry (2013-2014)

Project: Work with Sedgwick County grocery chains to reduce food waste and identify excess food that can be donated to programs that feed the hungry.

Dillons FOOD STORES®

PERISHABLE DONATIONS PARTNERSHIP

A partnership between the stores in the Kroger family and local food banks that benefits hungry people in our communities.

Kroger

KANSAS food bank

RESCUING FOOD • HELPING PEOPLE • SINCE 1984

FEEDING AMERICA

FRC feeds Sg. County Hungry (Year 1)

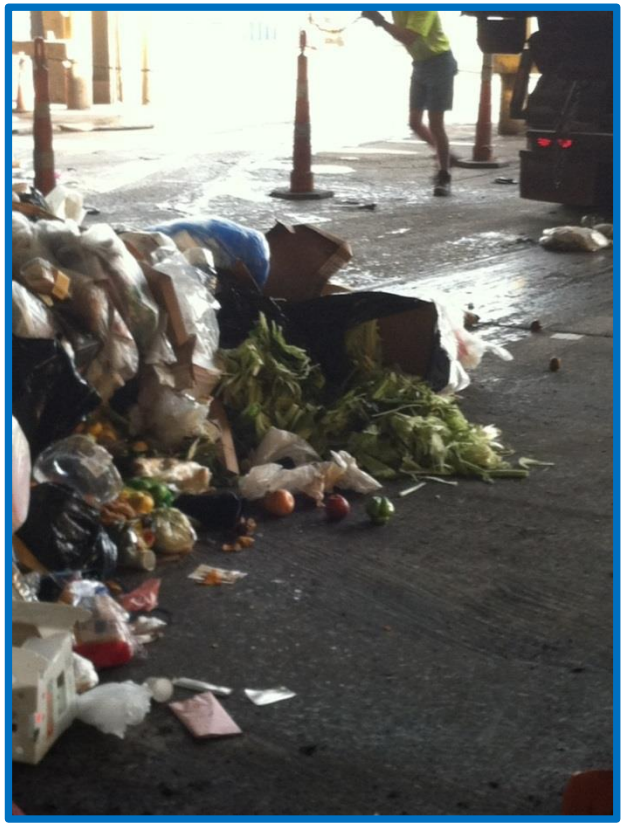
- In first year of two-year project, placed intern at **two** Dillons grocery store locations in Wichita
  - Owned and operated under Kroger
  - Already donating some food; worked with PPI to improve and quantify source reduction efforts and food diversion

Kara Hall, civil engineering student at KU

Transfer Station June 6th, 2013

Large amounts of produce found in trash

Cornhusks account for a large amount of waste



Approximately 30% of waste was organics

Year 1 projects

Year 1 projects at Dillon's

- Bakery (bolillo rolls and donuts)
- Produce ("Perishable Donation Partnership")
- Deli (rotisserie chickens)
- Grocery (eggs)
- Corn husks to new zoo

Year 1 results

Summary of 2013 intern recommendations for Dillons

Project description	Annual estimated environmental impact	Annual estimated cost savings	Status
Grocery	2.7 tons	$2,058	Planned
Produce	36 tons	$2,863	Implemented
Bakery			
Bolilo Rolls	2.5 tons	$14,202	Implemented
Donuts	2.1 tons	$9,079	Partially Implemented
Deli	5.4 tons.	$29,955	Recommended
Total savings *	**48.7 tons**	**$58,157**	
GHG reductions *	**33 metric tons CO2e**		

Year two – Bintou Bayo

- Dillons - Food Recovery Challenge
- Main Focus
  - Produce
  - Bakery
  - Deli
  - Dairy
  - Meat & Seafood
- Goals
  - Identify source reduction opportunities.
  - Maximize food donations to the Kansas Food Bank.
  - Increase food waste diversion program.

Bakery

- Food Donations to the Kansas Food Bank (KFB)
  - Food diversion to the KFB increased by 87 percent

Projected annual redistribution to KFB	
Store - North	23,360 lbs.
Store - South	10,220 lbs.
Total	33,580 lbs.

Dairy

First Week's food donations to KFB:

26 crates of milk – 111 gallons

Deli

- Source Reduction
  - BBQ baked chicken & baked chicken
    - More waste than sold
    - Recommended reduce production by 50%
    - Not eligible for KFB or Quest
    - Implemented, 1 tons of waste reduced.

Year 2 results

Summary of 2014 P2 intern recommendations for Dillons Food Stores

Project description	Annual estimated environmental impact	Annual estimated cost savings	Status
Deli BBQ Baked Chicken	0.5 tons	$3,500	Recommended
Deli Baked Chicken	0.4 tons	$2,300	Recommended
Deli Small Sides	1.4 tons	$6,000	Implemented
Produce	26.6 tons	$14,000	Implemented
Bakery	12.8 tons	$1,000	Implemented
Water	1,300,000 gal	$7,000	Implemented
Total savings	**41.7 tons waste diverted** **1.3 million gallons of water saved**	**$33,800**	
GHG reductions *	**67.2 metric tons CO2e ($MTCO_2E$)**		

Case Studies

2014 Case Study

Dillons Food Stores

Intern: Bintou Bayo
Major: Engineering Technology
School: Wichita State University

Company background
Dillons is a chain of grocery supermarkets owned and operated by the Kroger Company, an American retailer based in Cincinnati, Ohio. The Kroger Company owns more than 3,700 stores nationwide. In Kansas, Kroger operates more than 50 stores under the Dillons Division, in addition to two distribution centers.

Project background
An estimated 50 million Americans are food-insecure, yet food waste makes up the largest percentage (21%) of waste sent to the landfills.[1] In an effort to address this issue, Dillons partnered with the Kansas State University Pollution Prevention Institute (PPI) for a second year, hosting a food-recovery intern. In 2013, Dillons implemented source-reduction recommendations across most stores, reducing production of bolilo rolls and rotisserie chicken, and increasing donations to the Kansas Food Bank (KFB). In late 2013, Dillons began contracting with Quest, a service that diverts food trimmings and wastes to animal feed programs.

The 2014 intern was assigned to work with two different stores in the Wichita area, studying and identifying source-reduction and food redistribution opportunities. Through waste assessments, observations, and interviewing store associates, the intern was able to identify the following:

- Source reduction opportunities for the deli, bakery, and produce departments of both stores;
- A 95% increase in food donations to the Kansas Food Bank (KFB) from all perishable food departments; and
- Increased food trim and waste diversion from produce departments to Quest, an animal feed program.

Dillons implemented some of the 2014 intern's recommendations immediately, and the estimated annual environmental impact and cost savings can be found in a table at the end of this case study.

Locally, Dillons stores are just as committed to reducing environmental impacts, especially in the area of food waste. In recent years, management has executed several pollution prevention (P2) initiatives to source reduce, feed hungry families, and divert food waste to animal feed. Source-reduction opportunities identified by the 2013 intern reduced over production and saved Dillons approximately $50,000 at just two stores. In 2014, Dillons wanted to continue the food recovery work, with a goal to reduce excess food at the source and redistribute what could not be reduced, to hungry populations or animals.

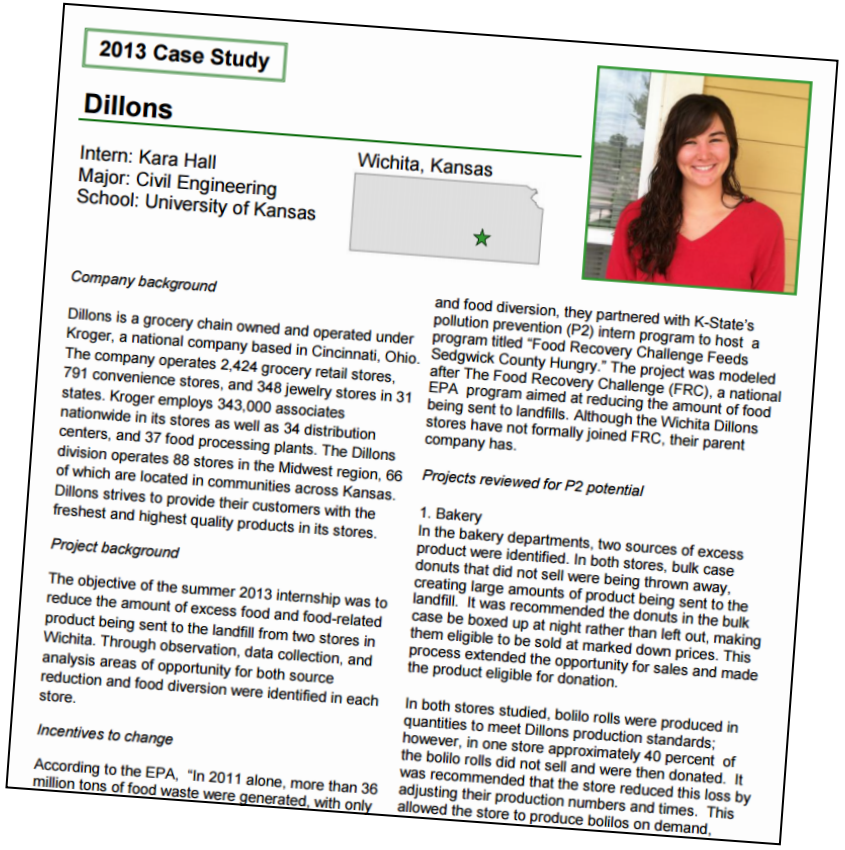
Projects reviewed for P2 potential

1. **Deli**
The hot case at the deli in both stores was the area with the highest source-reduction opportunity. The intern identified possible areas of reduction with the BBQ baked chicken, baked chicken, and small sides.

The intern's audit revealed that more BBQ chicken was being discarded than sold. Chicken and a few other deli products are not eligible for redistribution to the KFB or Quest, so excess is landfilled. Reducing the production of BBQ baked chicken by 50% and baked chicken by 25% could prevent landfilling approximately 0.9 tons, saving the department $5,800 annually.

Small sides at Dillons' deli have a shelf life of eight hours. The intern calculated that more small sides are discarded than sold. It was recommended the deli adjust the packaging time, reducing waste at the source. By delaying the initial packaging time by two hours, approximately 1.4 tons of waste would be avoided. Based on the sales price of these sides, Dillons could save about $5,600 annually. The recommendation was implemented quickly.

2. **Produce**
The produce department was responsible for the largest portion of weight going to the landfill, generated through produce trimmings and food that was not



2013 Case Study

Dillons

Intern: Kara Hall
Major: Civil Engineering
School: University of Kansas

Wichita, Kansas

Company background

Dillons is a grocery chain owned and operated under Kroger, a national company based in Cincinnati, Ohio. The company operates 2,424 grocery retail stores, 791 convenience stores, and 348 jewelry stores in 31 states. Kroger employs 343,000 associates nationwide in its stores as well as 34 distribution centers, and 37 food processing plants. The Dillons division operates 88 stores in the Midwest region, 66 of which are located in communities across Kansas. Dillons strives to provide their customers with the freshest and highest quality products in its stores.

Project background

The objective of the summer 2013 internship was to reduce the amount of excess food and food-related product being sent to the landfill from two stores in Wichita. Through observation, data collection, and analysis areas of opportunity for both source reduction and food diversion were identified in each store.

Incentives to change

According to the EPA, "In 2011 alone, more than 36 million tons of food waste were generated, with only

and food diversion, they partnered with K-State's pollution prevention (P2) intern program to host a program titled "Food Recovery Challenge Feeds Sedgwick County Hungry." The project was modeled after The Food Recovery Challenge (FRC), a national EPA program aimed at reducing the amount of food being sent to landfills. Although the Wichita Dillons stores have not formally joined FRC, their parent company has.

Projects reviewed for P2 potential

1. Bakery
In the bakery departments, two sources of excess product were identified. In both stores, bulk case donuts that did not sell were being thrown away, creating large amounts of product being sent to the landfill. It was recommended the donuts in the bulk case be boxed up at night rather than left out, making them eligible to be sold at marked down prices. This process extended the opportunity for sales and made the product eligible for donation.

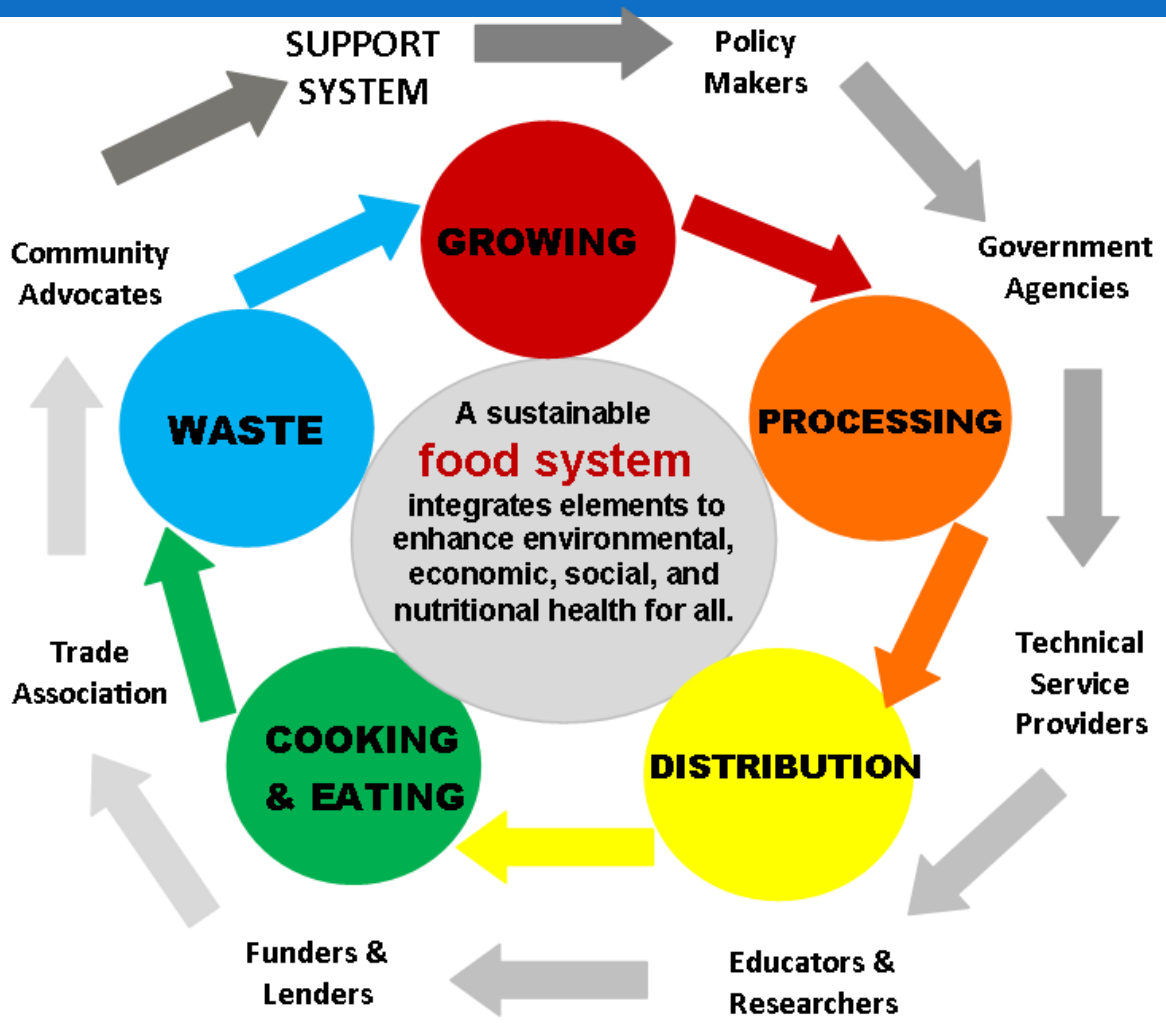
In both stores studied, bolilo rolls were produced in quantities to meet Dillons production standards; however, in one store approximately 40 percent of the bolilo rolls did not sell and were then donated. It was recommended that the store reduced this loss by adjusting their production numbers and times. This allowed the store to produce bolilos on demand,

www.sbeap.org/intern-program/past-summaries

Assessment of the Salina area food system

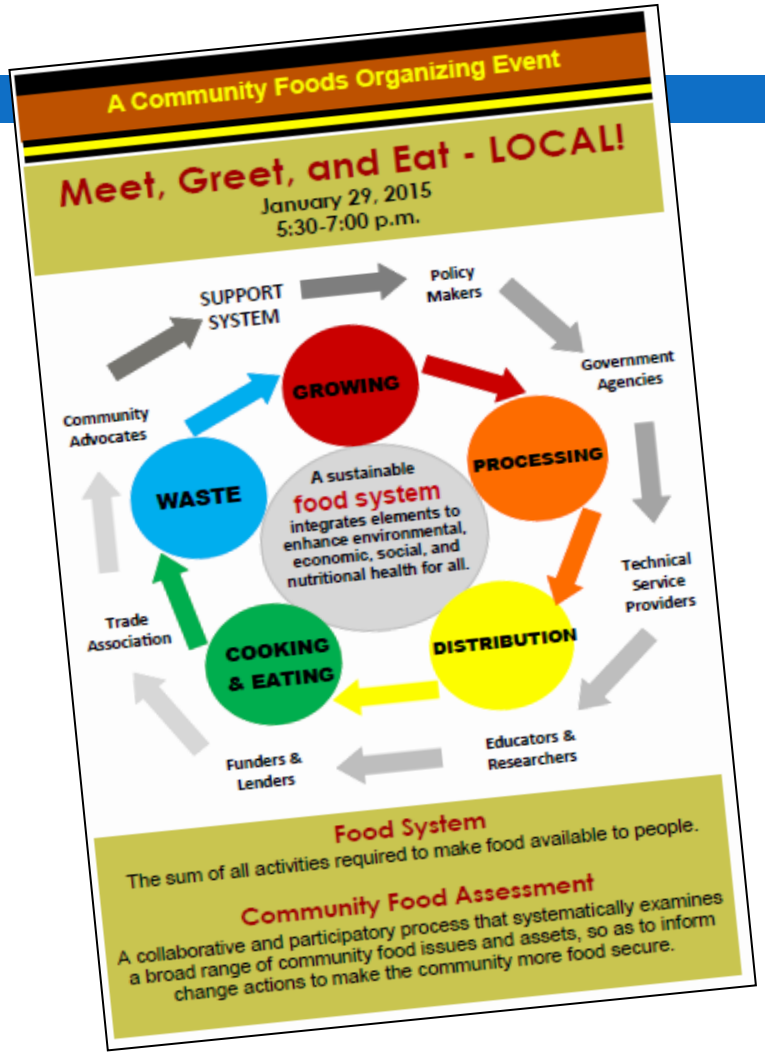
- Funded by USDA Agricultural Marketing Service's Local Food Promotion Program
- Identify stakeholders
- Identify food system's needs
- Find solutions to better connect local producers with consumers

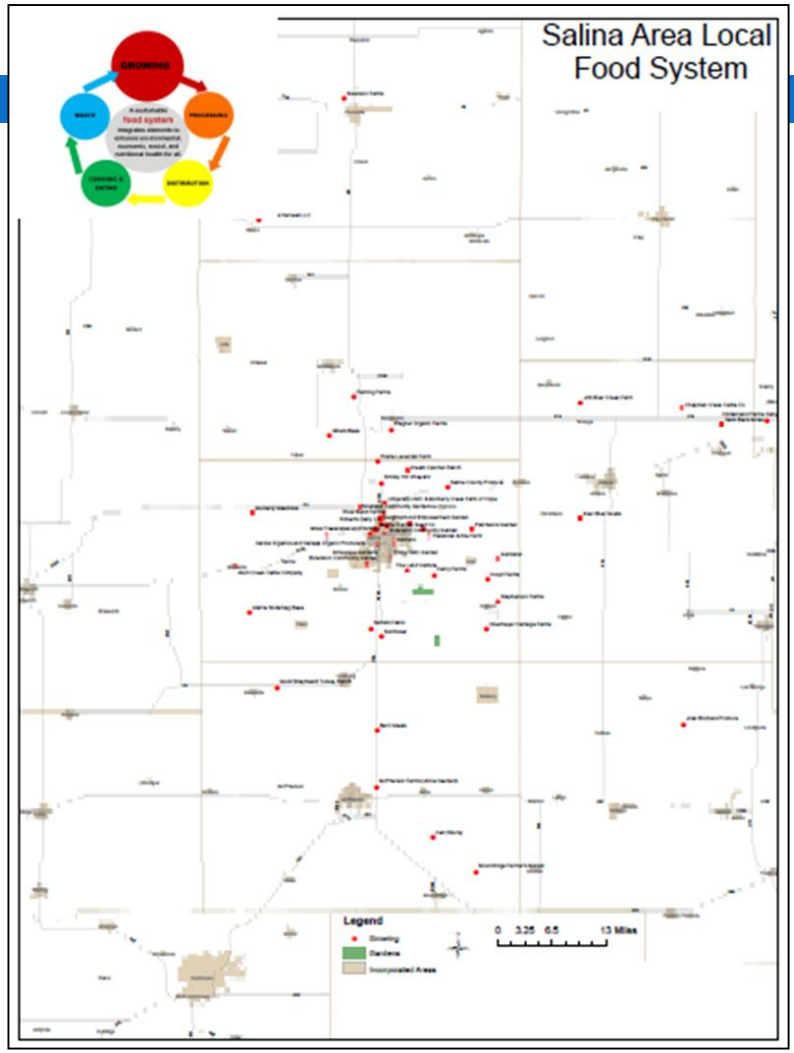
Assessment of the Salina area food system (USDA)



Food System

sum of all activities required to make food available to people


A Community Foods Organizing Event
Meet, Greet, and Eat - LOCAL!
January 29, 2015
5:30-7:00 p.m.
SUPPORT SYSTEM
Policy Makers
Government Agencies
Technical Service Providers
Educators & Researchers
Funders & Lenders
Trade Association
Community Advocates
GROWING
PROCESSING
DISTRIBUTION
COOKING & EATING
WASTE
A sustainable food system integrates elements to enhance environmental, economic, social, and nutritional health for all.
Food System
The sum of all activities required to make food available to people.
Community Food Assessment
A collaborative and participatory process that systematically examines a broad range of community food issues and assets, so as to inform change actions to make the community more food secure.


Salina Area Local Food System
Legend

Appetizer Buffet

Cheese
*Jason **Weibe Dairy**, Durham, KS*

Sun-dried Tomato Dip
***C&C High Tunnel Farms**, Chris and Christi Janssen, Scandia, KS*

Spaghetti Squash Fritters with Sriracha Mayonnaise
*Squash from **Saline County Produce**, John Ratzlaff, New Cambria, KS*
Onions from Lucy Alexander, Gypsum, KS
*Eggs from **Thelanders' Acme Farm**, John and Kellie Thelander, Salina, KS*

Butternut Squash Vichyssoise
*Squash from **Saline County Produce**, John Ratzlaff, New Cambria, KS*
Onions from Lucy Alexander, Gypsum, KS

Whole Wheat Crackers with Rosemary
Whole Wheat Crackers with Za'atar
*Whole wheat flour from **Heartland Mill**, Marienthal, KS*

Lavender Iced Tea
***Prairie Lavender Farm**, Mike Neustrom, Bennington, KS*

Coffee
***Iron Street Coffee Roaster**, Carla Mahon, Salina, KS*

Beverages to Purchase

Local Brewed Root Beer
***Big John's Brewery**, Salina, KS*

Local Brewed Beer
***Big John's Brewery**, Salina, KS*
***Blue Skye Brewery**, Salina, KS*

Local Wine
***Smoky Hill Vineyards & Winery**, Salina, KS*

Sincere thanks to the those who made the free local food appetizers possible:

- Squash was generously donated by Salina County Produce, John Ratzlaff.
- Funding for food was provided by Kansas Alliance for Wellness.
- Prairieland Market chefs and sous chefs:

Nancy Arnoldy, Ruth Cathcart-Rake, Claire, Ruby and Sarah Crews, Paula Fried, Amy, Hannah and Kate Hemmer, Martha Rhea, Donna Sandberg, Melanie Sanders, Heather Smith, and Allison Stuewe

- Sacred Heart High School students who served and bussed tables

Program Agenda

Look over the maps and get a picture of our local food system.

5:30 pm Begin Meet, Greet, and Eat

Enjoy food, beverages, and socializing.
Verify or mark your organization's name and location on one of the maps. Who else should be added?
Map facilitators can help you find the right map.
Write detailed comments on your card.

6:10-6:40 pm Food System Panel

Welcome

Jamie Bremen, Kansas Department of Health and Environment, Bureau of Health Promotion

Facilitator

Myles Alexander, K-State Center for Engagement and Community Development

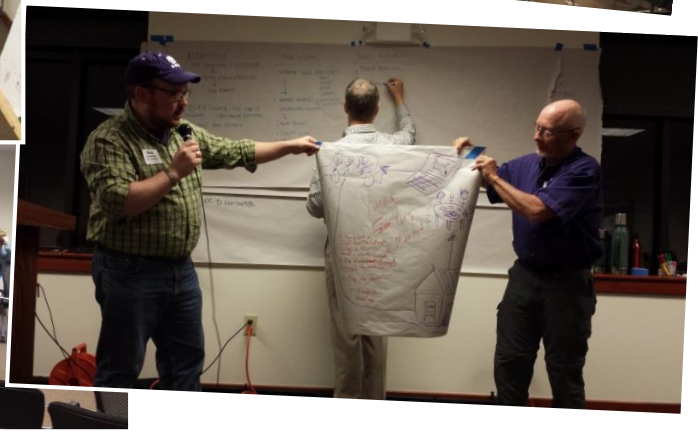
Panelists

GROWING: Don Wagner, Wagner Organic Farms
PROCESSING: Danny Williamson, Krehbiel's Specialty Meats
DISTRIBUTION: Mike Soetaert, Prairieland Market
COOKING/EATING: Cindy Foley, USD 305
WASTE: Ron Rouse, City of Salina

6:40 -7:00 pm Wrap Up

Turn in your completed card at the registration table to have your name included in the drawing for the gift basket.

Workshop



Salina area food system assessment results

- Need for a food advisory board (food policy council)
- Need for a food hub or similar
- Need for education
- Need for changes to current Salina's farmers market (some changes already implemented)

- Next steps pending funding

Feed people, not landfills
New KHF project

- Work primarily with Sedg. Co. retail food outlets
  - Restaurants and grocers
- Divert surplus food that can't first be reduced to hungry populations
- Utilize intern to work with –
  - Food Donation Collection Network
  - Harvest Support Network
  - Pre-registered partners
- Highlight tax incentive
- Reduce waste and prevent greenhouse gases

Opportunities

- **Tap into existing resources**
  - USDA and EPA Food Recovery Challenge
  - Remember the hierarchy – several want to just compost
  - Target existing audiences – School-aged populations and community groups
- **Learn more about "Food: Too good to waste" tool kit**
  - Community-based social marketing tool developed by EPA
  - Pilot finding show behavior change outcomes
  - Pending USDA proposal to work with rural communities
- **K-State PPI provides hands-on technical assistance**

EPA's Food: Too good too waste

- **What:** Food: Too Good to Waste (FTGTW) consists of an implementation guide and toolkit that aim to reduce wasteful household food management practices.
- **Who:** For local governments and community organizations interested in reducing household food waste.
- **Where:** https://www.epa.gov/sustainable-management-food/food-too-good-waste-implementation-guide-and-toolkit

SMART SHOPPING:
BUY WHAT YOU NEE

SMART STRATEGY:
Make a Shopping List with Meals in Mind

- Think about how many meals you'll eat at home this week and how long before your next shopping trip.
- Next to fresh items on the list, note the quantity you need or number of meals you're buying for.
- Shop your kitchen first and note items you already have.

FOOD ITEM	AMOUNT NEEDED	ALREADY HAVE
Salad greens	Lunch for a week	Enough for one lunch
2% milk	Gallon	None

SMART STORAGE:

KEEP FRUITS AND VEGETABLES FRE

FRUIT AND VEGETABLE STORAGE GUIDE

INSIDE THE FRIDGE

- Apples, berries, and cherries
- Grapes, kiwi, lemons, and oranges
- Melons, nectarines, apricots, peaches, and plums (after ripening at room temperature)
- Avocados, pears, tomatoes (after ripening at room temperature)
- Almost all vegetables and herbs

OUTSIDE THE FRIDGE

- Bananas, mangos, papayas, and pineapples: store in a cool place
- Potatoes / onions: store in a cool, dark place
- Basil and winter squashes: store at room temperature—once cut, store squashes in fridge

MORE STORAGE TIPS

- If you like your fruit at room temperature, take what you will eat for the day out of the fridge in the morning.
- Many fruits give off natural gases that hasten the spoilage of other nearby produce. Store bananas, apples, and tomatoes by themselves and store fruits and vegetables in different bins.
- Consider storage bags and containers designed to help extend the life of your produce.
- To prevent mold, wash berries just before eating.

SMART PREP:
PREP NOW, EAT LATE

Image courtesy of Grant Cochrane/FreeDigitalPhotos

SMART SAVING:
EAT WHAT YOU BUY

How to use these FREE tools?

- Make a component of existing food and nutrition education programs
  - Cooking classes
  - Shopping tours
  - Community topics
  - Workplace
  - Conferences and trainings
  - Home
- K-State PPI provides hands-on technical assistance

Call to action

- Share “Love letter to food” with your family, co-workers
- Take only what you can eat – sign at buffet
- Buy local
- Buy irregular
- Eat what you buy
- Contact PPI

Questions or suggestions?

Environmental Hotline:

800-578-8898

www.sbeap.org

sbeap@ksu.edu

Nancy Larson:

nlarson@ksu.edu

Kolia Souza:

ksouza@ksu.edu

@sbeap